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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,745	09/14/2001	Alon Eran	0866/0J840	9489

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EITAN, PEARL, LATZER & COHEN ZEDEK LLP
10 ROCKEFELLER PLAZA, SUITE 1001
NEW YORK, NY 10020

EXAMINER

SWERDLOW, DANIEL

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,745

Applicant(s)

ERAN ET AL.

Examiner

Daniel Swerdlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☐ Claim(s) 1,3-5,7,8,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 2,6 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 through 8 and 13 through 16, drawn to method and apparatus for echo suppression, classified in class 379, subclass 406.01.
 - II. Claims 9 through 12, drawn to an audio environment learner, classified in class 381, subclass 56.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because other learners could be use to characterize an audio environment for the echo suppressor. The subcombination has separate utility such as noise dosimetry.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Vladimir Sherman, reg. no. 43,116 on 10 May 2005, a provisional election was made without traverse to prosecute the invention of group I, claims 1 through 8 and 13 through 16. Affirmation of this election must be made by applicant in

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replying to this Office action. Claims 9 through 12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

1. Claim 14 is objected to because of the following informalities: The claim has a spurious period at the end of line 31. It appears that a semicolon was intended. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 4, 7, 8, 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 3 and 7 recite the limitations "said energy learner" and "said timing learner".

There is insufficient antecedent basis for these limitations in the claims. To advance prosecution

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to the maximum extent possible, examiner makes prior art rejections below based on the interpretation that the recitations are intended as “an energy learner” and “a timing learner”.

5. Claims 4 and 8 recite the limitation “said energy estimates units”. There is insufficient antecedent basis for the limitation in the claims. To advance prosecution to the maximum extent possible, examiner makes prior art rejections below based on the interpretation that the recitation is intended as “said energy estimators”.

6. Claim 15 recite the limitation “said audio terminal parameters”. There is insufficient antecedent basis for the limitation in the claims. To advance prosecution to the maximum extent possible, examiner treats the claims on the merits below based on the interpretation that the recitation is intended as “parameters of said audio terminal”.

7. Claim 16 is indefinite due to dependence from Claim 15.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3 through 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen (US Patent 4,560,840).

10. Regarding Claim 1, Hansen discloses a telephone subscriber’s instrument with handsfree facility (i.e., an audio terminal) that detects speech signals in the presence of noise (i.e., operates in an uncontrolled audio environment) (column 1, lines 61-63) and prevents instability due to

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coupling from loudspeaker to microphone (i.e., has an echo suppression unit for reducing acoustic feedback) (column 1, lines 13-31). Hansen further discloses monitoring the level of background noise (i.e., learning the audio environment) (column 1, lines 39-43) and setting channel thresholds (i.e., controlling acoustic feedback) accordingly.

11. Regarding Claim 3, Hansen further discloses extracting signal amplitude information from the two directions (i.e., measuring audio energy of each one of the receive audio stream and transmit audio stream) and transmission of this information to a data processor (i.e., providing the measurements to an energy learner) (column 2, lines 16-27). Hansen further discloses the signal amplitudes used to derive noise level parameters which are, in turn, used to control channel attenuations in an attenuation table (column 3, lines 19-60) over a 4 second period (i.e., a timing learner).

12. Regarding Claim 4, Hansen further discloses comparing transmit and receive levels to thresholds to make voice activity decisions (Fig. 7) and state machine logic (Fig. 7: Standby, Receive, Transmit) that sets attenuation according to the state and the table (Column 3, lines 55-60).

13. Claims 5, 7 and 8 are essentially similar to Claims 1, 3 and 4 respectively and are rejected on the same grounds.

Allowable Subject Matter

14. Claims 2 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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15. The following is a statement of reasons for the indication of allowable subject matter:

16. Regarding Claim 2, as stated above apropos of Claim 1, Hansen anticipates all elements of that claim. In addition, Hansen discloses the echo suppressor being a state machine with transmit, receive and standby (i.e., idle) states (Fig. 7) and extracting signal amplitude information from the two directions (i.e., measuring energy of an active audio in each of the receive state and transmit state) and transmission of this information to a data processor (i.e., providing an energy index to a control unit) (column 2, lines 16-27). However, Hansen does not disclose measuring a duration of active audio to produce a time index for a controller. As such, the prior art fails to anticipate or make obvious all elements of the claimed invention and Claim 2 is allowable matter.

17. Claim 6 is essentially similar to Claim 2 and is allowable for the same reasons.

18. Claim 13 is allowed.

19. The following is an examiner's statement of reasons for allowance:

20. Regarding Claim 13, Hansen discloses a telephone subscriber's instrument with handsfree facility (i.e., an audio terminal) with an echo suppressor with transmit, receive and standby (i.e., idle) audio states (Fig. 7) that controls acoustic feedback based on noise level (i.e., identification of an uncontrolled audio environment). However, Hansen does not disclose using timing characteristics of the audio states to produce an index for the identification. As such, the prior art fails to anticipate or make obvious all elements of the claimed invention and Claim 13 is allowable.

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21. Claim 14 would be allowable due to dependence from Claim 13 if the objection made above were overcome.

22. Claim 15 would be allowable due to dependence from Claim 13 if the objection to Claim 14 and the rejection of Claim 15 for indefiniteness under 35 USC 112 made above were overcome.

23. Claim 16 would be allowable due to dependence from Claim 13 if the objection to Claim 14 and the rejection of Claim 15 for indefiniteness under 35 USC 112 made above were overcome.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

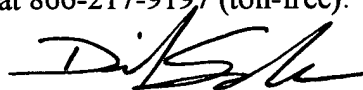
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 571-272-7531. The examiner can normally be reached on Monday through Friday between 7:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh H. Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Swerdlow
Examiner
Art Unit 2644

ds
28 April 2005